

PATENT ABSTRACTS OF JAPAN

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(54) COMPOSITE CONTAINER

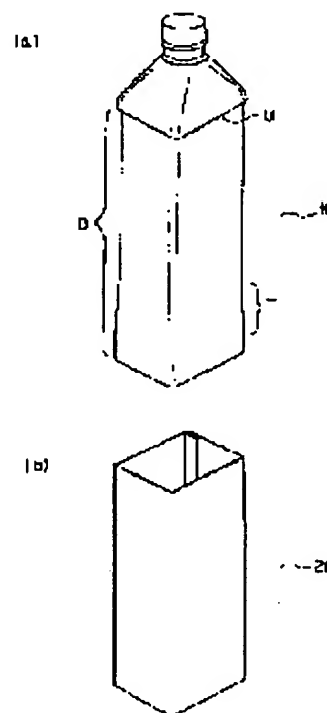
(57)Abstract:

PROBLEM TO BE SOLVED: To reduce an amount of used plastic for facilitating separate disposal after use by fitting a sleeve made of a paper board into a thin plastic bottle having an undercut in the upper end of a body with the lower end thick for integration.

SOLUTION: An undercut U is made in the upper end of a body D of a thinned plastic bottle 10, while a taper T is provided in the lower end on a body side wall so that the body becomes thicker as the lower end comes closer.

On the other hand, a sleeve 20 is formed into a rectangle from a blank of a paper board with four side wall panels connected. The sleeve 20 is put over from a bottom of the plastic bottle, and the upper end of the sleeve 20 is locked with the undercut U provided in the plastic bottle

10 while the lower end is locked at the middle of the tapered taper T provided in the body side wall panel or at its outermost position to prevent vertical movement, thereby integrating with the plastic bottle 10.



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CLAIMS

[Claim(s)]

[Claim 1]It consists of a tube-like object by a paperboard which covers a drum section of a plastic bottle by which thinning was carried out, and this plastic bottle, A complex container in which ANDAKATTO is provided in an upper bed of said drum section, and it is characterized by stopping the whole surface or said tube-like object which a taper was formed in part and twisted around said drum section of a drum section side attachment wall by a position of said ANDAKATTO and said taper so that a trunk may become thick at a lower end part as a lower part.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention]This invention is a container for fluids, such as a drink, a seasoning, toiletries, drugs, quasi drugs, and chemicals, a semi- fluid, a granular material, and microsome, and relates to the complex container which reinforced the outside surface of the plastic bottle which carried out thinning with the tubed paperboard.

[0002]

[Description of the Prior Art]Many complex containers which reduced and carried out the thinning of the amount of the plastic used of a plastic bottle for environmental protection, protected the outside from the former with the carton or the tube-like object by a paperboard, and gave intensity are proposed. When this complex container is divided roughly, there are what unified the plastic bottle and the tube-like object by a paperboard by a certain coupling means in the drum section circumference of a plastic bottle, and a thing which combined a plastic bottle and carton on the outskirts of a mouth neck of a plastic bottle, and was unified. For example, the former type is proposed by the Patent Publication Heisei No. 505949 [six to] gazette, JP,7-833,U, and JP,7-22968,U, and the latter type is proposed by JP,6-80668,U. As shown in drawing 4 (a), what is proposed in the Patent Publication Heisei No. 505949 [six to] gazette provides a crevice and a height in the drum section side attachment wall of a plastic bottle, and fixes the tube-like object of a paperboard to it.

As shown in drawing 4 (b), what is proposed by JP,7-833,U provides ANDAKATTO in the drum section upper and lower sides of a plastic bottle, uses that middle as a cavity, and loops a paperboard around this portion.

As what is proposed by JP,6-80668,U is shown in drawing 4 (c), it consists of three parts, carton is combined by the neck part of a light-gage plastic bottle, and heat adhesion of the bung hole is carried out on it.

[0003]

[Problem(s) to be Solved by the Invention]However, about a means to fix a paperboard tube-like object on the outskirts of a drum section of the plastic bottle which carried out thinning. When provide a crevice or heights in the drum section of a plastic bottle, and many stop a tube-like object in this portion as proposed in the Patent Publication Heisei No. 505949 [six to] gazette, but the stiffness of the level in the plastic bottle side exists, it is effective, but. If thinning progresses and stiffness is lost, this means will completely become invalid. If it puts in another way, there is a problem that there is a limit in the thinning of this kind of complex container. The complex container proposed by JP,7-833,U is a crevice fitting method, and unless a use rear cylinder-like object is destroyed, there is a problem that judgment is difficult. In the case of the complex container proposed by JP,6-80668,U, Since the usual thick mouth neck which advancing thinning required time and effort for the work which inserts the wrap flap of the upper bed of an outer packaging into the portion into which the mouth neck lower part was narrow even if possible, and was prepared independently is attached to a bottle body afterwards, there is a problem whose process of operation increases.

[0004]

[Means for Solving the Problem]This invention made in order to solve said technical problem, It consists of a tube-like object by a paperboard which covers a drum section of a plastic bottle by which thinning was carried out, and this plastic bottle, ANDAKATTO is provided in an upper bed of said drum section, and it constitutes by stopping the whole surface or said tube-like object which formed a taper in part and was twisted around said drum section of a drum section side attachment wall by a position of said ANDAKATTO and said taper in a lower end part, as a lower part so that a trunk may become thick.

[0005]

[Embodiment of the Invention]Hereafter, this invention is explained in more detail using a drawing. Drawing 1 is a perspective view of the complex container by this invention. Explanatory view drawing 3 of the locking means of the tube-like object in the complex container according [drawing 2] to this invention is a horizontal sectional view of the taper part of the complex container by this invention. The plastic bottle 10 by which thinning was carried out, and the tube-like object (a sleeve is called below) 20 by the paperboard which involves in the drum section are unified, and the complex container 30 by this invention is constituted. As shown in drawing 1, the sleeve 20 is undercut [in which the upper bed of the sleeve 20 was provided by the plastic bottle 10 / U], It is stopped so that there may be no vertical movement at its outermost part in the middle of taper part T (refer to drawing 2 (a)) of breadth at last the lower end was provided by the drum section sidewall panel. The pars basilaris ossis occipitalis of the plastic bottle 10 may also give the length which hides thoroughly to the sleeve 20. In taper part T, the lower end of the sleeve 20 binds tight moderately the plastic bottle drum

section D by which thinning was carried out, and it is twisted so that it may not slip down caudad. Since a drum section swells with internal pressure a little after restoration, the inner surface of the drum section side attachment wall in taper part T and the sleeve 20 is stuck still better, and does not slip down from a regular position as the sleeve 20 shows to drawing 1. In drawing 1, even if it twists, a position shifts somewhat caudad and a crevice opens between undercut one U and the upper bed of the sleeve 20, the sleeve 20 can be shifted up, this crevice can be abolished, and appearance is not spoiled. The complex container 30 by this invention may not be limited to the bottle of a quadrangle as a drum section horizontal section shows to drawing 1, but the sleeve 20 may twist it, and as long as it is a possible gestalt, they may be circular, an ellipse form, a polygon, etc.

[0006]As shown in drawing 2 (a), undercut one U is given to the upper bed of the drum section D of the plastic bottle 10, and the taper is formed in the drum section side attachment wall so that a trunk may become thick at a lower end part in a lower part. On the other hand, the sleeve 20 of the complex container by this invention, As shown in drawing 2 (b), they are 4 prismatic forms formed from the blank of the paperboard with which the sidewall panel of four sheets was connected, A blank is twisted around a drum section, and what pasted up by the edge left for applying paste of the blank end, and considered it as the sleeve 20, or carried out packing of the blank beforehand by condom ****, and was used as the sleeve 20 may be put from the direction of the pars basilaris ossis occipitalis of the plastic bottle 10, and it may unify. As for the above-mentioned grade undercut [U], it is preferred to make it abbreviated-in agreement with the thickness of the substrate of the tube-like object 20 shown in drawing 3, in view of the design nature of the usual bottle.

[0007]Drawing 3 is a horizontal sectional view in the taper lock position of the complex container by this invention. A taper is formed only in the 2nd page that the prismatic plastic bottle 10 counters, may make it only the 2nd page contact the inner surface of the sleeve 20 in taper part T, as shown in drawing 3 (a-1), and. This field may be made into the shape of a corrugated panel, etc. as shown in drawing 3 (a-2), and a rib may be formed in a lengthwise direction. Horizontal sections may be a circle and an ellipse, and a side attachment wall is made into the shape of a corrugated panel, and it may be made for a section to become petaloid also in that case, as shown in drawing 3 (b) and (c). As shown in drawing 3 (d), it may be polygonal shape and a taper is the perimeter, the whole field which counters, or selectively good as for a method of ***** also in this case.

[0008]The capacity of the target complex container [this invention] is about 500-2000 ml. A paperboard can use it for the raw material of the sleeve 20 of the complex container 30 by this invention conveniently, and the range is wide. Especially, it **-(**)-comes to a rear face or an interlayer using regenerated pulp, and is usable enough also in the paperboard which carried out doubling. If a coat ball is taken for an example, for example in the case of 1000 ml of

capacity, the thing of the range of 200 - 300 gr/m² can use the basis weight of a paperboard conveniently. On the other hand, it is usable and usable enough also in monolayer bottles, such as HDPE, PP, PET, and PA, and the multilayer extrusion-molding bottle which has a barrier property resin layer in a part of laminated constitution, such as PP/EVOH/PP, further. [raw material / in the direction of the plastic bottle 10] [thermoplastics / wide range] It is here and is HDPE. : High density polyethylene PP : Polypropylene PET : Polyethylene terephthalate PA : Acrylonitrile copolymer EVAL : Ethylene vinyl alcohol copolymer [0009] Without dropping the intensity as a container for the plastic bottle 10 and the sleeve 20 which carried out thinning as mentioned above extremely unification or by composite-izing, an operating resin amount can be reduced and the separate disposal after use is easy. Depending on the case, recycling is made possible. There is also a merit that furthermore the reduction of plastic BOTTORU after use becomes easy by thinning. Beautiful printing is attained over the whole surface of the sleeve 20, and it becomes possible to make a product grant the outstanding ornament effect and appealingness unlike the curved surface printing in the case of being the conventional plastic bottle simple substance or label ****.

[0010]

[Example] 1000 ml of inner capacity and the outer slope size of the drum section carried out light-gage shaping of the prismatic plastic bottle 10 60 mm in width, the depth of 85 mm, and whose height to undercut one U are 190 mm with the direct blow (extrusion blow) molding method using HDPE, and set eyes to 30gr. (Usually, they are 60-70g.) The R of the corner of four corners was 5 mm, and the periphery of portions other than the taper part of a drum section was 274 mm again. Taper part T was provided only in the side attachment wall before and after [60 mm-wide] countering, and the drum section periphery of the portion near a pars basilaris ossis occipitalis which spread most was 280 mm. On the other hand, the sleeve 20 as shown in drawing 3 was ***** (ed) and created from the blank of coat ball 250 g/m², and it set to 190 mm in height, and 288 mm of inner circumference. It was able to insert in from the pars basilaris ossis occipitalis of the plastic bottle 10 before being filled up with this sleeve 20, it was able to push in until the upper bed of the sleeve 20 ran against ANDAKATTO, and the complex container 30 by this invention which the whole drum section D was covered and was reinforced was able to be fabricated. Since the complex container 30 by this invention is covered with the sleeve in the outside surface, as compared with the conventional plastic bottle, the efficiency of surface printing, flexibility, and the space that can be printed were boiled markedly, progressed rapidly, and could increase the amount of information, such as how to use a display and contents, and it turned out that what whose design nature is also dependent on the design to the sleeve 10 and printing, and was excellent in it can be provided. After use was able to be easily classified with the plastic bottle 10, when drawing out the sleeve 20 from the pars basilaris ossis occipitalis of the plastic bottle 10.

[0011]

[Effect of the Invention]or [twisting a blank according to the complex container 30 by this invention] -- or unification can be easily done only by inserting the fabricated sleeve 20 in the plastic bottle 10, and special equipment is not needed. moreover -- becoming possible to reduce the amount of the plastic used used by this unification below in half, and classifying after use to a paperboard and a plastic -- discarding treatment -- or it can recycle and an environmental impact can be reduced. It is possible for a printing space to spread as compared with the conventional plastic container, for the flexibility of printing and beautiful to increase by leaps and bounds, and for the design nature as goods and appealingness to increase, since printing by publicly known printing technique is possible, and to transmit much merchandise information to consumers as print media. .

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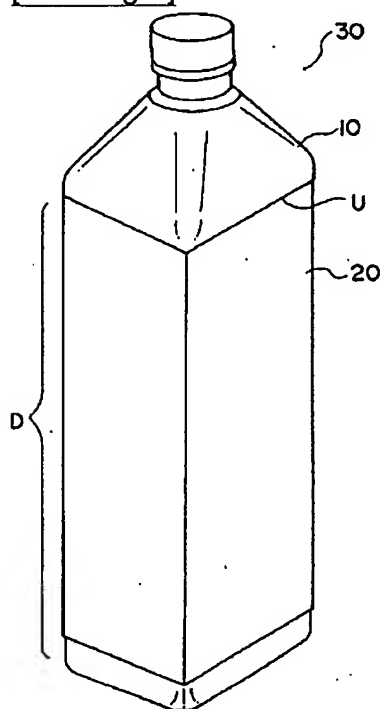
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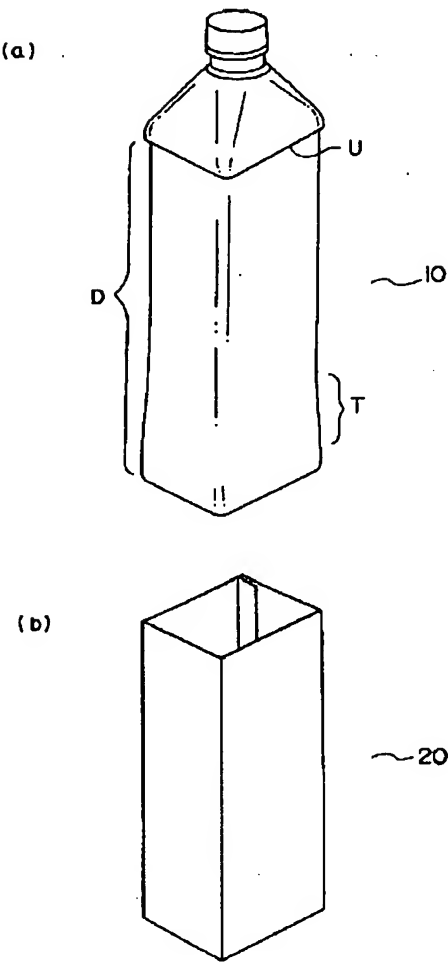
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DRAWINGS

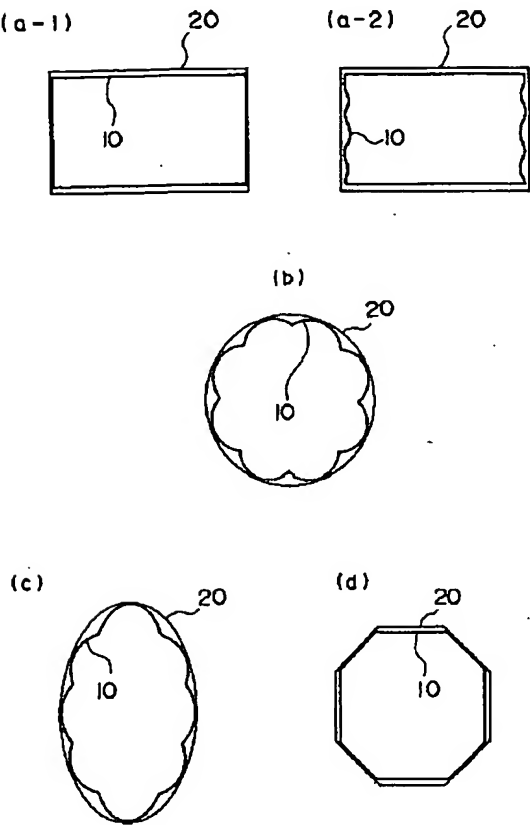
[Drawing 1]



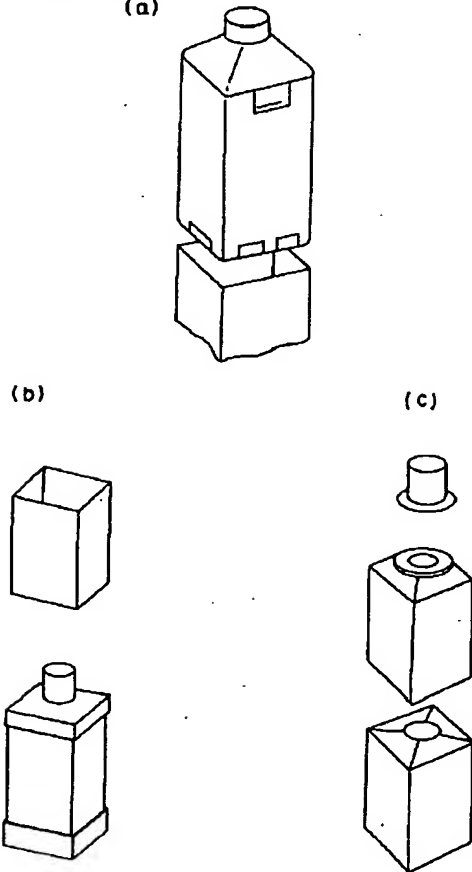
[Drawing 2]



[Drawing 3]



[Drawing 4]
(a)



[Translation done.]